

People don't talk a lot about creativity, other than to ordain the creative among us. Creativity is considered an inherent characteristic, more prominent in some than others. That may account for our sense of its serendipity. While we don't talk about creativity, much has been written about harnessing its power. In the book, The Artist's Way, Julia Cameron maps out a personal exploratory journey to rouse the creative spirit within, and the popular Thinkertoys encourages managers to problem-solve using creative thinking approaches. Could it be that our creativity is just dormant?

Contrary to popular thought, creativity isn't necessarily more prevalent in the arts, in entertainment, or in technology; its magic is used for more than manipulating melodies, swirling colors and forms, and transforming metal bits into computing power.

But what is creativity, really? Why does it seem to defy definition? Researchers can say, with some certainty, what creativity is not. Creativity is not within the exclusive domain of the left or the right side of the brain, nor is it affected by one's emotions or moods. It is not gender specific. Whether creativity seems an inherent ability in some of us and virtually absent in others is not really in question. Ironically, while some innate traits seem to correlate more closely to creative ability, it is widely held by experts that creativity can be taught - and, more importantly, it can be learned.

"It's the flash of insight . . . that has always made creativity so mysterious," says psychologist Robert Epstein, a pioneer in the scientific study of creativity. But while the "pow" is important, it's not the spark that we should focus on, he says. It's the whole process.

"It used to be that creative and innovative people were considered screwballs . . . who walked bareheaded in the rain, practiced free love, and starved in garrets," writes Sal Marino, Industry Week contributing editor and frequent writer on creativity. But being a creative person is now almost a necessity, insists Lesley Professor Mary Mindess, who envisioned a way to engage new students through the Internet and created several online courses. "It's a struggle to keep up with our fast-forward world - with rapid changes introduced by technologies and the personal demands of our combined family and professional lives." Mindess doesn't see that there's much choice: "I feel that I have to be creative in order to adapt," she says.

Creative people are different from the rest of us, but not very different, according to Winston Fletcher, a British advertising executive who writes about his extensive experience managing creative people. He has found that creative employees are most often motivated by recognition, not of themselves, but of their work. And about their work, they are passionate. Confirming this is Mihaly Csikszentmihalyi, psychology professor and former department chair at the University of Chicago, whose 30 years of research identified the most consistent trait among creative people as "an ability to enjoy the process of creation for its own sake." As for their personalities, Csikszentmihalyi describes them as complex, often exhibiting opposing qualities. "Creative people tend to be smart, yet naive...they have a great deal of physical energy, but they're also often quiet and at rest...[and] they alternate between fantasy and a rooted sense of reality," he writes. They are nonconformists more often than not, and frequently, they are perfectionists.

Whoever you think of as creative, chances are that they fit this mold, whether they are modern-day stars like Madonna or Michael Jordan, legendary creative geniuses such as Leonardo DaVinci or Albert Einstein, or a misfit coworker or relative with an invaluable, redeeming talent for innovation.

Just what is creativity? According to Csikszentmihalyi, it is a process which mixes "divergent and convergent thinking" and is marked by "fluency, flexibility and ability to make unusual associations." Evolutionary biologist Stephen Jay Gould finds these same traits in species that have survived evolution. "Those organisms that are able to evolve and live on are those that.... possess attributes that don't fit our notion of superiority: sloppiness, broad potential, quirkiness, unpredictability." The key is their flexibility, he says, dispelling the notion of survival of the fittest.

More pragmatically, Marino defines creativity as "the practice of taking ideas, things, and people and exposing them to new environments or forcing them into new configurations to solve problems, to lead and develop people, to invent new products, to write beautiful music or inspired novels, and to run companies."

Candace Bellringer '98 GSASS, has designed and led creativity workshops. She knows firsthand the inhibiting power of myths. "Society has so many ground rules about what it takes to be creative: You must have innate ability. You must be a genius. You have to have technical ability," she says. "It seems unattainable."

But these are the messages you must learn to defeat and put behind you, she believes. "It's actually scary, but you need to break out of your comfortable mode. Experiment. Try new things. Allow yourself to fail."

"I grew up in an era of pretty pictures, but I was always drawing non-reality," she says. After years of personal dissatisfaction with her artistic ability and her parents squelching her desire to attend art college, at age 43, Candace began to draw again. Now, at 47, she can confidently call herself an artist.

Sadly, the natural creative spirit inherent in children is too often snuffed out at an early age - many believe by first grade. Teachers are poised to counteract this by infusing creativity exercises into their classrooms. The Autonomous Learner Model, developed by George Betts, and educator Joseph Renzulli's Enrichment Triad are two models in use. Both leverage students' natural interests to develop their curiosity and creative thinking through focused experimentation.

For Bellringer's own creative development, she says it took four intensive years of reading about creativity, experimenting with mind-freeing, playful activities, and learning art techniques to access her creative ability.

According to some research, the brain is most creative upon waking and just before sleep. This may be a clue as to the state of mind required for creative work. Fluidity of thinking may be necessary to make out-of-the-ordinary associations and to parlay those ideas into useable forms. As Bellringer puts it, "The conscious mind can't do it. You need to develop an ability to zone out and go with your feelings, instincts and intuition."

There are ways to trigger creative thought. Experts suggest devices such as metaphorical thinking, fantasy, or juxtaposing exceptionally unlike things. Playful associations with rhymes, mazes, alliteration and other patterns can be employed to dislodge a sticky mind and elevate creative fitness. Creativity researchers and creative people themselves speak about the process as a discipline that is demanding and requires frequent lubrication and stimulation.

Some suggest engaging in risky behavior. Human behavior expert Robert Epstein's process for inducing creativity is based largely on challenging oneself beyond what is comfortable. He believes that significant creativity is within every person's reach, but it won't come by continuing to do the things one likes and does well. The Epstein creativity process is a sequence of steps intended to induce experiential stimulation. He suggests setting out to do something in which one is likely to fail; broadening oneself by seeking unusual opportunities - especially those that seem uninteresting; and then, to perpetuate creative stimulation in one's routine life, surrounding oneself with a constantly changing and diverse environment.

Author and creativity expert Michael Michalko takes a thinking tack. In his book, *Cracking Creativity: The Secrets of Creative Genius*, Michalko outlines eight thought patterns common to geniuses such as Aristotle, Einstein and Edison. His research suggests typical thought patterns are "reproductive," and seek to arrive at a single answer based upon the past problems one has encountered, while geniuses think "productively." "With productive thinking, one generates as many alternative approaches as one can." The creative person continues to explore all the various ideas, even after identifying a promising approach.

"People are not born creative," writes *Industry Week's* Marino. "It takes practice, but it requires no special skill." Thomas Edison would agree with that. "Genius is 99 percent perspiration and 1 percent inspiration," he is known to have said.

The holder of nearly 1,100 patents, whose inventions include the light bulb, the typewriter, phonograph, motion picture camera, talking doll and the alkaline storage battery, Edison set strict quotas for himself: one minor invention every 10 days and one major invention every six months. He believed his lack of education was an asset as he had fewer assumptions to dispel. One such example was his idea to wire circuits in parallel and use high-resistant filaments in his light bulbs, two things that were considered scientifically impossible at the time. He was also a great believer in recording and reviewing all his tests and experiments. Often the "failures" became relevant to advancing a later idea. His 3,500 notebooks, preserved today in temperature controlled vaults, record his creativity strategies of generating many, many ideas, challenging all assumptions, and wasting nothing.\*

As for developing one's own creative potential, experts say it takes time. "Start out slowly and don't expect too much," advises Bellringer. "Take time to look at things - look at the way a tree is formed. Take time to be by yourself."

Opening up one's creative self is ongoing. "It is all about the process," says Bellringer. "Don't get panicky. On days when it's not flowing, accept it. Give yourself permission to fail. Experiment. Copy others' work that you admire. Read about others in your field - biographies. Something will resonate."

For those not asked to step forward when the creative were originally ordained, the bad news is that the uncreative among us will be at a significant disadvantage in the new economy. The good news is, it turns out, that through targeted exercise, creativity can be learned.

\* Michalko, Michael. "4 Creativity Lessons from Edison." *NewsScan Exec* Spring 1998: 6-8.